

## **REMARKS**

Claims 1, 3-5, 7, 8, 11, 12, 14, 15, 17, 18, 21, 22, 24, 25, 27 and 38 are currently pending in this application. It is gratefully acknowledged that the Examiner has found allowable subject matter in Claim 4. In the Office Action, the Examiner has rejected Claims 1, 3-5, 7, 8, 11, 12, 14, 15, 17, 18, 21, 22, 24, 25, 27 and 38 under 35 U.S.C. §103(a) as being unpatentable over Admitted Prior Art (APA) in view of Heikkinen et al. (WO 95/32558) and further in view of Lamoureux et al. (U.S. 6,330,458).

Regarding the rejections of independent Claims 1, 5, 8, 18 and 38 under 35 U.S.C. §103(a), the Examiner alleges that the claims are unpatentable over the APA in view of Heikkinen et al., and further in view of Lamoureux et al. Heikkinen et al. discloses a method for improving connection quality in a cellular radio system, and a base station; and, Lamoureux et al. discloses intelligent antenna sub-sector switching for time slotted systems.

It is respectfully submitted that the claims of the present application relate to determining the optimum period for switching an antenna and limits a non-transmission period wherein antenna switching occurs in order to maximize the effect of a Time Switched Transmit Diversity (TSTD) in a Narrow Band Time Division Duplexing (NB-TDD) mobile communication system. The non-transmission period is a specific period among a variety of non-transmission periods. The period for switching antenna claimed in the claims of the present application is one sub-frame of 5ms.

The claims of the present application relate to the use of one sub-frame as a period for switching an antenna. The claims of the present application do not use more than one sub-frame as a period for switching an antenna.

Technical considerations for determining the period for switching the antenna in a TSTD scheme are as follows:

- (1) different diversity effect according to the antenna-switching period;
- (2) the shorter the antenna-switching period, the more adaptive to the system environment having a lot of channel variation; and
- (3) modeling of channel variation patterns and selects optimum antenna switching period for the modeled channel variation pattern.

For an example, to achieve the TSTD effect from a user who is moving at 100Km/s, an antenna needs to be switched during a very specific period.

Each of these claims recite that a switching control signal is generated such that the switching occurs only in a non-transmission period of a last time slot within a sub-frame, the sub-frame includes a plurality of time slots, each time slot includes a transmission period followed by a non-transmission period.

In the claims of the present application, the switching occurs only in a non-transmission period of a last time slot within a sub-frame.

In Lamoureux et al. switching occurs multiple times in a frame. For example, as shown in FIG. 4, in frame 401, switching occurs six (6) times. Switching six times throughout a frame is not and cannot be equated with switching only in a non-transmission period of a last time slot within a sub-frame.

Independent Claims 1, 5, 8, 18 and 38 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 3, 7, 11, 12, 14, 15, 17, 21, 22, 24, 25, and 27, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 3, 7, 11, 12, 14, 15, 17, 21, 22, 24, 25, and 27 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1, 3-5, 7, 8, 11, 12, 14, 15, 17, 18, 21, 22, 24, 25, 27 and 38, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul J. Farrell", written in a cursive style.

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